DOCUMENT RESUME

ED 215 515 EC 142 175

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TITLE Issues in the Evaluation of Hearing Impaired Children and Adolescents.
PUB DATE Apr 81
NOTE 24p.; Paper presented at the Annual Meeting of the Western Psychological Association (Los Angeles, CA, April 9-12, 1981).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Deafness; Evaluation Methods; *Hearing Impairments; Mental Health Programs; *Student Evaluation; Testing Problems; Test Norms

ABSTRACT

Intended for mental health professionals who evaluate hearing impaired children and adolescents, the paper discusses issues of general concern. Areas touched upon include psychological and sociological effects from the hearing impaired subculture, complicating medical and physical disorders, and modification of assessment devices to remove the effect of sensory deprivation. A section outlining specific issues touches upon the nature and etiology of hearing impairments, factors (such as age of onset and amount of speech and auditory training) affecting implications of hearing loss, specific difficulties with English, and the use of nonverbal tests of intelligence. (CL)

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ISSUES IN THE EVALUATION OF HEARING-IMPAIRED CHILDREN AND ADOLESCENTS

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Paper presented at the meeting of the Western Psychological Association, April, 1981

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ISSUES IN THE EVALUATION OF HEARING-IMPAIRED CHILDREN AND ADOLESCENTS

INTRODUCTION - The purpose of this paper is to sensitize mental health professionals who are currently performing psychological, educational and vocational assessments with the hearing impaired to some major concerns and issues that currently exist in the field. The major thrust of this paper is not to discourage professionals from doing these types of psychological assessments but to provide them with an appreciation of their abilities as well as their limitations. A second goal of this paper is to help professionals better understand the nature of the task at hand when assessing the hearing impaired. The examples included in this paper are taken from the authors' knowledge of the current literature in this area as well as from their own experience with assessing hearing-impaired individuals in California and Washington, D.C.

DEFINITION OF TERMS

Hearing Impaired

For the purpose of this paper a hearing-impaired individual is a person with a functional or organic loss of hearing great enough that he or she cannot function successfully in a regular school classroom or other educational setting without additional support services.

Cognitive/Intellectual Assessment Devices

Assessment instruments designed to assess a person's ability to learn and benefit from experience. The most common referrals

to psychologists involve questions of exactly what is the current intellectual ability of a given individual. Most of the effort to date in the area of assessing hearing-impaired persons has focused on these types of assessments. Work in the area of personality and social skills assessments with this population is virtually non-existent and will not be a main focus of this paper.

Issues of Sensitivity

Developing a proficiency in evaluating hearing-impaired individuals requires much time and a great deal of dedication. This paper barely touches the surface of the issues that one quickly encounters when conducting these types of assessments and does not begin to do justice to the area of testing such a population. Instead an effort will be made to briefly present several of the major issues that a mental health professional should consider before he or she begins work and testing in this area. For additional information a bibliography of references related to testing hearing-impaired individuals is included at the end of this paper.

Normed-Referenced Tests

Tests in which the performance of a given individual is scored and interpreted with regard to where he or she stands in relation to some representative population of persons with similar characteristics.

Behavioral Assessment/Functional Analysis

A method of assessing a person in which the focus of the assessment is placed upon his or her current behaviors and the environmental events that lead to the occurance or non-occurance of these

behaviors. In this method of assessment a person's problems are typically conceptualized as falling into one of two general categories. The first category is behavioral excesses, that is, those things that an individual does too frequently or too intensely. The second category includes behavioral deficits, that is, those things that a person does not do enough of or performs at a high enough level but with not enough intensity.

ISSUES OF GENERAL CONCERN

WHEN EVALUATING HEARING-IMPAIRED CHILDREN AND ADOLESCENTS

1. Hearing-impaired individuals have a right to be evaluated with reference to populations having similar backgrounds, experiences, and learning histories. This is not to say, however, that the comparison of such individuals with the general population should never take place.

   a. Some headway has been made towards the norming of existing psychological tests, primarily intellectual and academic achievement tests, with hearing-impaired populations. In addition, a number of tests have recently been developed that were designed specifically for use with the hearing impaired. When working with a test that has not been used extensively with hearing-impaired individuals the burden of proof concerning validity is on the mental health professional. He or she must clearly show that a person's performance on such a test was not adversely affected in some way by his or her sensory handicap, rather than by a deficit in the ability of primary interest. For example, a child who performs poorly in an intelligence test because of an inability to understand or even hear the instructions accompanying the test cannot be said to have received a valid measure of his or her intellectual functioning.

   b. There may be times when it becomes important to compare hearing-impaired individuals with the population at large.

The mainstreaming of children, for example, requires such a comparison if an appropriate educational placement setting is to be located. In such cases, the mental health professional may, with caution, proceed with such a comparison given that other psychometric considerations with regard to testing deaf individuals have been met. In addition, the validity of such a comparison is limited to the particular child and comparison in question and not to all such comparisons that could be made between hearing and hearing-impaired populations.

2. Hearing-impaired individuals currently make up a unique subcultural grouping in our country and, as when working with other racial, religious or ethnic populations, the informed professional should understand and be willing to face certain psychological and sociological phenomena that may exist within such a subculture. Some of these issues are listed below:

   a. The propriety of a person from the dominant culture within a population to assess a minority member of that population. Although a hearing mental health professional may feel competent in the administrative and interpretation of a particular assessment instrument, the hearing-impaired person may express concerns related to the professional's ability to fully understand the experience of deafness. In addition, the hearing-impaired person may see the professional as passing judgment on the hearing-impaired community as a whole or on certain practices that may be idiosyncratic to that community. These issues need to be responded to in a sensitive and open manner.

b. Perceived and actual past discriminatory practices by members of the general population against hearing-impaired individuals The possibility exists that an association may be made between. general discrimination against the hearing-impaired culture by the hearing community by and the mental health professional in particular. Most hearing-impaired individuals can recount several such incidents and an attitude of skepticism may prevail. This is possible even though mental health professional in question is, him or herself, not guilty of such practices. Again, sensitivity and good judgement prevails.

c. Recent demonstrations of pride and subcultural awareness among hearing-impaired people. The hearing examiner may see this as militancy among members of minority population. One of the stages that many subgroups go through while developing their own autonomy and self-identity is a period of separation and perceived alienation from the majority population. These perceptions often occur when the minority group see themselves in some kind of danger. Such a phenomena is likely to occur when the dominant majority culture is seen as attempting to engulf the minority or when the practices of the minority population clash with the mores and standards of the majority culture.

3. Some hearing-impaired individuals have accompanying medical and physical disorders in addition to their primary disability of hearing impairment.

a. A frequent cause of deafness in the 1960's was maternal rubella. This disease may attack a number of organ systems and may lead to such handicaps as brain damage and perceptual motor disorders, in addition to a hearing loss. The mental health professional should be sensitive to the fact that oftentimes it is these additional handicapping factors, and not the sensory deficit per se, that is responsible for any differrences in the perceptual, motivational, and intellectual development between hearing and hearing-impaired populations.

b. As with other populations, the mental health professional should be careful to rule out the idiosyncratic detrimental effects of a hearing-impaired individual's response style. For example, impulsivieness, in addition to deafness, is sometimes associated with maternal rubella. In such instances, a professional assessing a hearing-impaired child or adolescent would want to consider using an assessment device that is not adversely affected by a person's difficulty in responding in a careful and deliberate manner.

4. Recent normative studies strongly suggest that the intellectual abilities of hearing-impaired populations are not significantly different from those of the general hearing population. Nevertheless, assessment devices used to measure such abilities oftentimes need to be modified so as to remove the effect of the sensory deprivation, thereby resulting in a more valid estimate of a person's cognitive functioning.

a. The evaluation of hearing-impaired individuals pose special considerations on the part of the mental health professional. For example, a child, although equal to his hearing peers in most, if not all, cognitive areas may, as a secondary result of the hearing loss, demonstrate differences in his or her motivation to succeed on standardized psychological tests and in his or her attitudes towards the importance of the testing situation in general. One possible reason for this is a learning history that may have been marked by frequent frustrations and failures due to communication problems or to difficulties in succeeding when required to attempt tasks that are not appropriate to hearing-impaired children. In these cases the examiner needs to be aware of such a possibility and to take steps to insure that any poor performance on a psychological test is not the result of a motivational deficit or rapport problem. The difference in values between the examiner and examinee can also affect the testing situation in an adverse way and the examiner needs to be careful in all cases to insure that a conflict of values does not lead to a less than optimal performance during a testing session.

5. Tests employed with hearing-impaired individuals have frequently been developed by altering assessment devices for the general population.

a. Even when norms have been established for the hearing-impaired, the effects of changing or eliminating test items upon the reliability, validity, and other psychometric characteristics of a test are not usually reported by the test developers.

b. A test that has been adapted for use with sensory deprived populations by eliminating unsuitable items will typically not be as reliable as the complete test from which it has been derived. For example, it is commonly known that administering only the Performance Scale of WISC-R reduces the reliability of the reported IQ when compared to the more common practice of administering both the Verbal and Performance Scales. The examiner should be aware of this phenomena and, if possible, use multiple measures of assessment to increase the reliability of his or her judgments. The examiner should also report those instances when less than a complete evaluation device was administered.

ISSUES OF SPECIFIC CONCERN WHEN EVALUATING

THE HEARING IMPAIRED

1. There are two major types of hearing loss:

   A. Conductive - pertaining to the outer or middle ear system. This type of loss blocks passage of sound to the inner ear nerves. A conductive loss is typically associated with a deficit in ability to perceive low decibal sounds rather than a distortion of the sounds that are perceived.

   B. Sensorineural - pertaining to the inner ear system. This type of loss entails damage to the nerves that are instrumental to actually hearing and transmitting sound impulses to the brain. This type of loss typically imposes both a loudness and a disfunction deficit.

2. Most severe-to-profound hearing losses are of a sensorineural nature. Therefore, when communicating with an individual with a loss that is at least moderate or worse, several important points should be kept in mind.

      a. Merely speaking louder to the hearing-impaired person is not enough to overcome many auditory deficiencies. Although hearing aids do a good job of amplifying weak auditory signals, they cannot compensate for disfunctions in the auditory signal and make sounds clearer much as glasses do for the individual with a visual deficit. Hence, even with amplification, hearing in these individuals may be qualitatively different from that of the average hearing person.

b. A person's ability to discriminate speech sounds, especially a person with a hearing loss, is affected by the signal-to-noise ratio. For example, although a child may be able to correctly comprehend what an examiner says in a quiet room, this does not mean that he or she can understand what is said by a teacher at a similar intensity level in a noisy classroom.

3. The implications of hearing loss differ somewhat from person to person. As a general rule it could be argued that the greater the hearing loss, the more difficulty an individual will encounter in participating fully in a "hearing world." Enough exceptions exist to this rule, however, that the mental health professional must be very careful in making overly broad generalizations about the future status or social behaviors of a hearing-impaired individual. The effects of two identical hearing losses may affect different individuals in very dissimilar ways. Generally, the impact of a loss is dependent upon temporal, educational, and socialization variables. During a complete psychological assessment, examiners working in this field need to probe the following areas for information about an individual's past and current levels of functioning.

a. Age of onset - children with a later age of hearing loss onset are sometimes able to make better use of residual hearing. Children who experience a hearing loss onset after speech has developed typically have much better English language as well as oral articulation skills than do children who were born with a hearing deficit.

b. Configuration of loss - examination of a person's audiogram will provide useful information about what kind of sounds he or she experienced at the time of testing. It does not, however, provide definitve information about a person's previous auditory experiences since one's hearing loss may fluctuate over periods of years, even weeks. An audiogram also includes a measure of a person's ability to accurately perceive and discriminate common speech sounds. This ability to comprehend everyday speech may provide the examiner with the most useful information concerning how to deal with a child in the testing session. The examiner needs to carefully review not only the audiogram but also a person's speech discrimination tests in order to determine how best to deal with a person during a testing session and to help understand what the psychological experience of hearing impairment is like for this particular individual.

c. Amount of speech and auditory training - present evidence suggests that auditory training is, with some individuals, effective in improving speech discrimination abilities. The degree of hearing loss is not, however, always perfectly correlated with speech discrimination ability. A person with only a moderate loss for example, may have much difficulty in understanding the spoken language. Even individual with mild hearing losses may be adversely affected when assessment devices rely upon verbal language ability. Due to the above factors and the variety of ways in which a hearing loss may affect an

individual, group intellectual testing of hearing-impaired children is generally not appropriate.

e. The functional and psychological aspects of a child's hearing loss will be affected by the stability of the loss, the predominant communication mode used in the person's home while growing up, and the current and past amplification history.

f. The examiner should not assume that a person understands what is being communicated simply because he or she shakes his or her head to indicate "yes" in response to a question. For example, many hearing-impaired children are very skilled at feigning understanding and agreement in this manner. If an examiner is not certain that a child understands a concept, then he or she should, through more probing, take the time necessary to clear up the matter. It is an extremely risky and potentially dangerous endeavor to make assumptions that a person understands direction on questions at such times.

g. The past educational history of hearing-impaired people will differ greatly. In addition, the examiner should not assume lipreading, signing or any other communication skills on the part of an individual simply because he or she cannot hear well.

4. There is no such thing as "the" deaf personality. Hearing-impaired individuals are a heterogeneous group of people and any attempt to categorize them with general trait labels or personality descriptions cannot do justice to the multitude of individual differences and personality styles that exists within this population.

5. Many hearing-impaired people, despite otherwise normal intelligence, have difficulty with the syntactical and morphological characteristics of English.

   a. The discrepancy between a hearing-impaired person's intellectual capability and achievement and his or her ability to master and utilize the English language is typically, but not necessarily, demonstrated in both the expressive and receptive language modalities. Intellectual tests presupposing high levels of verbal or language skills will often be inappropriate for many hearing-impaired individuals.

   b. Many hearing-impaired children learn English as a second language with their first language being American Sign Language (ASL) or some variant of English. Public Law 94-142 dictates that a child be evaluated in his or her own native language or mode of communication, unless it is clearly not feasible to do so. The examiner who is not able to establish some form of communication with a hearing-impaired child should seriously consider referring the child to another examiner rather than trying to continue despite this inability.

   c. If necessary, when presenting instructions to hearing-impaired people make allowance for English vocabulary and syntactical deficiencies by speaking in abbreviated simplified sentences. If this will cause serious differences in standardized administration procedures then, once the test has been completed, the examiner should consider going back and begin "testing the

limits" in any areas of uncertainty. One way of doing this is to re-administer an item, this time providing additional cues and verbal instructions. During all testing the examiner should be prepared to explain and define any English idioms that occur during the course of the session.

d. The written communications of some hearing-impaired individuals may appear somewhat confused and disoriented even to the experienced mental health professional. This phenomena is typically due not to a disordered thought process on the part of the examinee, but rather to a difficulty with expressing him or herself in the written modality.

6. In general, nonverbal tests will provide better estimates of the "true" or optimal intellectual abilities of hearing-impaired people.

a. The performance of hearing-impaired children in classroom situations will, however, be associated with individual personality and motivational differences just as happens with all children. In addition, the classroom abilities of hearing- impaired children will be determined by the ability of educational personel to provide the additional support services and environmental aides that they may need. These services include, but are not limited to interpreters, amplification systems, speech and language therapists, and preferential seating arrangements.

b. If a test does require some verbal instructions then the examiner needs to be certain the individual understands these

directions before continuing. One way to do this is by having ready a number of sample or practice items that can be given prior to administering the actual test items. This helps to insure that the examiner understands a test item before continuing.

c. When presenting test item instructions, the examiner should be aware of the difficulty of the task required of a hearing-impaired individual. Care must be taken because the person is sometimes being asked to perform the almost impossible task of simultaneously watching the test materials and the examiner's signed communication or pantomime. One way to avoid this situation is to alternate periods of giving instructions with periods of manipulating the test materials. Also, if possible, it is very important for the examiner to provide hearing-impaired persons the opportunity to manipulate the test materials before giving additional signed instructions.

d. The examiner needs to be careful not to inadvertantly provide cues to the hearing-impaired person concerning the correctness of a response. One common mistake is for the examiner to look at the correct response option more often than the other options or to change facial expressions just as the examinee is about to respond incorrectly. Many hearing-impaired people are sensitive to these visual cues and care must be taken to avoid invalidation of the test in this manner.

7. Some concepts that are frequently used in the everyday conversation of hearing adults may be very difficult to convey to a hearing-impaired person. Just because an examiner has difficulty in getting these points across does not mean that the examinee is necessarily intellectually deficient in any way.

   a. Some hearing-impaired individuals have difficulty understanding the concept of a speeded performance, a factor that affects the results of many common psychological tests. Some may, for example, try to hurriedly complete a task or may ignore time factors completely and work very slowly to the detriment of their overall score. The mental health professional should be aware of this possibility and take extra time to be sure that the hearing-impaired individual understands this concept before continuing. An alternate way of handling this phenemonen is to choose a test that does rely heavily upon speeded performance.

   b. Hearing-impaired children often experience difficulty in choosing various ways of responding when the alternatives are not clearly laid out to them beforehand. For example, the examiner may mistakenly label a hearing-impaired child as rigid or concrete when the real difficulty lies with the way in which the concept of choosing among alternatives was presented to the child.

8. Lipreading is a difficult skill and most hearing-impaired adults are typically able to comprehend less than 50% of the words presented to them using this modality of communication alone.

Hearing-impaired chidren typically comprehend even less than this figure. Lipreading ability is also affected by contextual cues such as lighting, facial expression, looking directly at a listener when speaking, and so on.

a. Whenever possible, the examiner should not rely on a person's lipreading skills alone when presenting instructions to a test.

b. The examiner should be sure that his or her lips are visible while speaking. In order to do this he or she needs to directly face the examiner to get hir or her visual attention before presenting instructions, and to speak clearly and at a normal conversational pace. The examiner also needs to be sensitive to distance and lighting cues by questioning the examinee as to what communication style tends to work best for him or her when interacting with other people.

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ASSESSMENT DEVICES EMPLOYED WITH HEARING-IMPAIRED CHILDREN AND ADOLESCENTS

The following are a list of assessment devices commonly employed by the authors with hearing-impaired individuals. This listing of assessment devices is in no way exhaustive but was meant to familiarize professionals recently entering the field with some of the more popular devices that have been employed with this population. Interested professionals will need to examine each of these tests in relation to their own needs and the needs of a particular child before making the decision to employ a particular instrument. Those tests that have been normed on hearing-impaired populations are noted with an asterisk.

Intellectual/Development Assessment

Test	Publisher
Bayley Scales of Infant Development	Psychological Corporation
Merrill Palmer Scale of Mental Tests	Stoelting Company
*Smith Johnson Nonverbal Performance Scale	Western Psychological Services
*Hiskey-Nebraska Test of Learning Aptitude	Union College Press
Wechsler Preschool and Primary Scale of Intelligence	Psychological Corporation
*Wechsler Intelligence Scale for Children - Revised Edition	Psychological Corporation
Arthur Adaptation of the Leiter International Performance Scale	Stoelting Company

Intellectual/Development Assessment (cont'd)

Test	Publisher
Ravens Progressive Matrices	Western Psychological Services
Goodenough Draw-A-Man Test	Harcourt, Brace, and Inc.
*Sniders-Comen Non Verbal Tests for Deaf and Hearing Subjects	J. B. Walters
Coumbia Mental Maturity Scale	Psychological Corporation

Adaptive Behavior Scales

Vineland Social Maturity Scale	American Guidance Service
AAMD Adaptive Behavior Scale	American Association of Mental Deficiency
Lakeland Village Adaptive Behavior Grid	Psychology Department Lakeland Village
Callier-Azusa Scale	Callier Center for Communication Disorders

Perceptual Motor Scales

Visual Motor Integration Test	Follette Publishing Co.
Bender Visual Motor Gestalt Test	Grune and Stratton
Frostig Developmental Test of Visual Perception	Consulting Psychologists Press

Personality Assessment

Bender Visual Motor Gestalt Test	Grune and Stratton
Devereux Child Behavior Rating Scale	Devereux Foundation Press

Personality Assessment (cont'd)

Test	Publisher
*Meadow Kendall Social-Emotional Assessment Inventory for Hearing Impaired Students	Gallaudet College
House-Tree-Person	Western Psychological Services

Scholastic Achievement Tests

*Stanford Achievement Tests, Special Edition for Hearing Impaired Students	Gallaudet College Office of Demographic Studies
Wide Range Achievement Test	Guidance Associates
Peabody Individual Achievement Test	American Guidance Service